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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,191	03/02/2004	Salman Akram	3854.3US (98-0854.03/US)	1968

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EXAMINER

GURLEY, LYNNE ANN

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,191

Applicant(s)

AKRAM, SALMAN

Examiner

Lynne A. Gurley

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

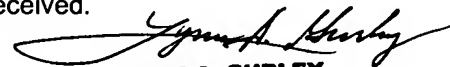
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



LYNNE A. GURLEY

PRIMARY PATENT EXAMINER

TC 2800, AU 2812

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/21/05; 1/17/06
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: 1449: 3/10/06

DETAILED ACTION

This Office Action is in response to the amendment with remarks, filed 1/9/06.

Currently, claims 1-7 are pending.

Response to Arguments

1. Applicant's arguments, see pages 5-6, filed 1/9/06, with respect to the rejection(s) of claim(s) 1-7 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, **the rejection has been withdrawn**. However, upon further consideration, **a new ground(s) of rejection is made** in view of Berndlmaier et al. (US 5,059,553, dated 10/22/91, filed in the 1449 dated 3/2/04).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 3/21/05, 1/17/06 and 3/10/06 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2812

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Berndlmaier et al. (US 5,059,553, dated 10/22/91).

Berndlmaier shows the method as claimed in figures 1-4 and corresponding text, as: a method of forming a semiconductor device assembly, the method comprising: providing a substrate 10 having an upper surface and a lower surface (the upper surface is inherently known as the active surface and the lower surface is inherently known as the back of the die, see page 2, [0004] of Applicant's specification for support); depositing a layer of copper on one surface of the upper surface and the lower surface of the substrate (copper pad 12 is comprises aluminum and copper, column 3, lines 4-15); patterning the layer of copper on the one surface of the upper surface and the lower surface of the substrate to form at least one bond pad 12 thereon; depositing at least one layer of metal (metal layers 34-44, wherein 44 is Au) on at least a portion of the layer of copper; and connecting one end of a conductor lead of a TAB tape to the at least one layer of metal (column 3, lines 20-27 and lines 65-67; column 4, lines 1-67; wire bonding method is disclosed).

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Seppala et al. (US 5,665,639 dated 9/9/97).

Seppala shows the method as claimed in figures 1-3 and corresponding text, as: a method of forming a semiconductor device assembly, the method comprising: providing a substrate 200 having an upper surface and a lower surface (the upper surface is inherently known as the active surface and the lower surface is inherently known as the back of the die, see page 2, [0004] of Applicant's specification for support); depositing a layer of copper on one surface of the upper

Art Unit: 2812

surface and the lower surface of the substrate (copper pad 211 is comprises and copper and has a layer of Au); patterning the layer of copper on the one surface of the upper surface and the lower surface of the substrate to form at least one bond pad 211 thereon; depositing at least one layer of metal (metal layers 231-234) on at least a portion of the layer of copper; and connecting one end of a conductor lead of a TAB tape to the at least one layer of metal. The wire bonding method is disclosed).

6. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Volfson et al. (US 5,106,461, dated 4/21/92).

Volfson shows the method as claimed in figures 3-6 and corresponding text, with emphasis on figure 3J as: a method of forming a semiconductor device assembly, the method comprising: providing a substrate 200 having an upper surface and a lower surface (the upper surface is inherently known as the active surface and the lower surface is inherently known as the back of the die, see page 2, [0004] of Applicant's specification for support); depositing a layer of copper on one surface of the upper surface and the lower surface of the substrate (copper pad 214/222/238 is comprises copper, column 7, lines 29-67; column 8); patterning the layer of copper on the one surface of the upper surface and the lower surface of the substrate to form at least one bond pad 214 thereon; depositing at least one layer of metal (metal layers 222 through 244) on at least a portion of the layer of copper; and connecting one end of a conductor lead of a TAB tape 252 to the at least one layer of metal (column 9, lines 7-22. Also see column 10 for additional TAB disclosure; wire bonding method is disclosed).

Art Unit: 2812

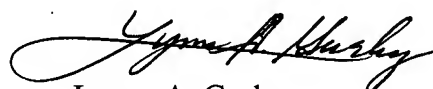
Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Also see US 5,665,639 for the claimed invention including TAB process, US 5,547,906, US 5,503,286, US 5,485,038, US 5,672,548 and US 6,544,880, all filed in the IDS of 3/2/04.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne A. Gurley whose telephone number is 571-272-1670. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lynne A. Gurley
Primary Patent Examiner
Art Unit 2812

LAG
April 3, 2006